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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,368	12/20/2005	Hiroaki Koshima	281974US0PCT	9727
22850	7590	06/08/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
GOLOBOY, JAMES C				
ART UNIT		PAPER NUMBER		
1797				
NOTIFICATION DATE		DELIVERY MODE		
06/08/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/561,368

Applicant(s)

KOSHIMA ET AL.

Examiner

James Goloboy

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's amendment filed 3/27/09 overcomes the rejection over Meyer set forth in the office action mailed 10/29/08. However, the amended claims are rejection as obvious over Meyer. The rejections over Goodwine and Tipton are maintained.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 6-7, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer.

In column 1 lines 56-63, Meyer discloses a detergent that is a mixture of N-substituted imides derived from adducts of maleic anhydride and olefins, which are then further reacted with amines. In columns 2-3 Meyer discloses that the maleic anhydride adducts have alkenyl groups of between 10 and 30 carbon atoms, meeting the limitations of reactant (a) of claim 1 and claim 6. In column 4 lines 8-47, Meyer discloses that the amine mixture contains aminoethylpiperazine, meeting the limitations of the ring-terminated amine of reactant (b) of claim 1 as well as claims 2-3. Examples 1-7 in columns 6-8 discloses the preparation of additives meeting the limitations of claims 1-3.

In Tables I, VII, and VIII, Meyer discloses that some of the alkenyl substituents of the succinimide have more than 30 carbon atoms. The succinimide products with these alkenyl substituents will have a molecular weight within the range recited in claim 7, and also meet the limitations of newly added claims 12 and 14. The difference between Meyer and the currently presented claims is that Meyer does not disclose a mole

percentage of polyalkylenepolyamine having a ring structure at an end within the range recited in claim 1.

Attention is drawn to the sample amine mixtures in Table IX (column 6 lines 34-47), which contain aminoethylpiperazine. While Meyer discloses the concentration in terms of weight percentage instead of mole percentage, it is clear that the amine mixtures in Table IX will meet the concentration limitation of reactant (b) of claim 1, as the "higher oligomers" that make up a large portion of the amine mixtures will have a higher molecular weight than the aminoethylpiperazine, and the mole percentage of aminoethylpiperazine in the mixtures will be greater than the weight percentage. The mole percentage of aminoethylpiperazine in the "Amine-A" mixture of Meyer will therefore overlap the range recited in claim 1. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);"

3. Claims 1-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwine.

This rejection is adequately set forth in paragraph 7 of the office action mailed 10/29/08, which is incorporated here by reference.

4. Claims 1-6 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tipton.

This rejection is adequately set forth in paragraph 8 of the office action mailed 10/29/08, which is incorporated here by reference.

5. Claims 1-3, 6-8, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tiffany (U.S. Pat. No. 5,789,356) in view of Meyer.

Tiffany discloses a lubricating composition, as recited in claim 8, for two-stroke engines comprising a succinimide dispersant substituted by a C20-C60 olefin (column 5 lines 45-67), overlapping the range recited for the R1 group of claim 1, and a second succinimide dispersant substituted by a C60-C350 hydrocarbyl group (column 8 lines 49-65), which will have a molecular weight within the range recited for component (B) of claims 7 and 13. In the table in column 12, Tiffany discloses that the two succinimides are added to the composition in similar amounts, and the relative concentrations therefore meet the limitations of claim 13. In column 11 lines 3-10, Tiffany discloses that the lubricant compositions are often added directly to the fuel. Tiffany does not specifically disclose a succinimide formed from a polyalkylenepolyamine having a ring structure.

The discussion of Meyer in paragraph 2 above is incorporated here by reference. Meyer discloses a succinimide dispersant with a similar molecular weight to the low molecular weight succinimide of Tiffany and meeting the limitations of the succinimide of claim 1. The use of the succinimide dispersant of Meyer as the low molecular weight dispersant in the composition of Tiffany meets the limitations of claims 1-3, 6-7, and 12-14.

It would have been obvious to one of ordinary skill in the art to include the dispersant of Meyer as the low molecular weight dispersant in the composition of Tiffany, as Tiffany teaches that the composition can be added directly to the fuel and Meyer teaches that the dispersant is also an effective detergent in fuels.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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